Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1) (Currently Amended) Method for regenerating a particle filter ~~(10)~~ built into an exhaust line ~~(12)~~ of an internal combustion engine ~~(34)~~, with the exhaust gases passing through the filter from an inflow face ~~(16)~~ to an outflow face ~~(18)~~, characterized in that, during filter regeneration:

- the internal temperature of at least two regions ~~of~~ within the filter ~~(10)~~ between the inflow face and outflow face is monitored;

- the oxygen level of the exhaust gases is reduced when at least one of the temperatures monitored is greater than a critical temperature; and

- the oxygen level of the exhaust gases is increased to continue filter regeneration when all the temperatures monitored are less than the critical temperature.

2) (Currently Amended) Regeneration method according to Claim 1, characterized in that the internal temperature of one region of the filter ~~(10)~~ is monitored near its inflow face ~~(16)~~.

3) (Currently Amended) Regeneration method according to Claim 1, characterized in that the internal temperature of one region of the filter ~~(10)~~ is monitored near its outflow face ~~(18)~~.

4) (Currently Amended) Regeneration method according to claim 1, characterized in that the internal temperature of a middle region of the filter ~~(10)~~ is monitored.

5) (Currently Amended) Regeneration method according to claim 1, wherein desulfation of a NOx trap ~~(58)~~ is performed, characterized in that the internal temperature of at least two regions of the filter ~~(10)~~ is monitored after desulfation of the NOx trap ~~(58)~~.

6) (Original) Regeneration method according to Claim 1, characterized in that the oxygen level of the exhaust gases is reduced by operating the engine in rich mode.

7) (Original) Regeneration method according to Claim 1, characterized in that the oxygen level of the exhaust gases is increased by operating the engine in lean mode.

8) (Currently Amended) ~~Device~~ A regeneration device for regenerating a particle filter ~~(10)~~ built into an exhaust line ~~(12)~~ of an internal combustion engine ~~(34)~~, said filter having an exhaust gas inflow face ~~(16)~~ and outflow face ~~(18)~~, characterized by including at least two temperature sensors ~~(24, 26, 28)~~ located inside the filter between the inflow face and outflow face, and a control unit for controlling an oxygen level of exhaust gases passing through the filter during regeneration in response to temperatures measured by the at least two temperature sensors.

9) (Currently Amended) Regeneration device according to Claim 8, characterized in that ~~a~~ one of said at least two temperature ~~sensor (26)~~ sensors is placed in the vicinity of the inflow face ~~(16)~~ of the filter.

10) (Currently Amended) Regeneration device according to Claim 8, characterized in that ~~a~~ one of said at least two temperature ~~sensor (24)~~ sensors is placed in the vicinity of the outflow face ~~(18)~~ of the filter.

11) (Currently Amended) Regeneration device according to claim 8, characterized in that ~~a~~ one of said at lest two temperature ~~sensor (28)~~ sensors is placed in a middle region of the filter.

12) (Currently Amended) Regeneration device according to claim 8, characterized in that the particle filter ~~(10)~~ includes catalytic phases for treating pollutants contained in the exhaust gases.

13) (New) Regeneration device according to Claim 9, characterized in that one of said at least two temperature sensors is placed in the vicinity of the outflow face of the filter.

14) (New) Regeneration device according to claim 13, characterized in that one of said at lest two temperature sensors is placed in a middle region of the filter.

15) (New) Regeneration device according to claim 8, characterized in that the control unit controls the oxygen level of exhaust gases passing through the filter during regeneration by reducing the oxygen level when at least one of the at least two temperature sensors measures a temperature greater than a critical temperature, and by increasing the oxygen level when all of the temperatures monitored by the at least two temperatures sensors are less than the critical temperature.

16) (New) Regeneration device according to claim 8, wherein the at least two temperature sensors are spaced axially from one another.

17) (New) Regeneration method according to Claim 2, characterized in that the internal temperature of one region of the filter is monitored near its outflow face.

18) (New) Regeneration method according to claim 17, characterized in that the internal temperature of a middle region of filter is monitored.

19) (New) Regeneration method according to claim 1, wherein the at lest two regions are spaced axially from one another.